



Approval #

990060-U (Replaces 940014-U)

Safety & Buildings Division  
201 West Washington Avenue  
P.O. Box 2658  
Madison, WI 53701-2658

## Wisconsin Material Approval

Material

Precision Tank Inventory Control System  
Statistical Inventory Reconciliation Method  
PTIC Rev. 90-12/93

Manufacturer

Entropy Limited  
345 South Great Rd.  
Lincoln, MA 01773

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### SCOPE OF EVALUATION

The Precision Tank Inventory Control (PTIC) System, Version Rev. 90-12/93 , manufactured by Entropy Limited, has been evaluated for use as an alternate method of monthly monitoring for tanks and connected piping in accordance with **ss. Comm 10.61 (8) and 10.615 (3)** of the Wisconsin Administrative Flammable and Combustible Liquids Code.

### DESCRIPTION AND USE

The PTIC Rev. 90-12/93 system is a quantitative method that analyzes inventory records for evidence of leaks. Based on an analysis of inventory records and application of a threshold of 0.05 gallon per hour, the method declares a tank system to be tight, a leak indicated, the results inconclusive, or the data unusable. The system quantifies the results to estimate the rate at which product is leaking.

Since the inventory deals with the tank system as a whole, leaks from either the tank or the piping would appear as losses in the inventory record. When the PTIC Rev. 90-12/93 system declares that a leak is indicated, further testing may be necessary to identify the location of the leak.

Manifolded tank systems are treated as a single tank and are analyzed using a single inventory record for the whole system.

Inventory data may be recorded manually or hand entered into a computer. A specified data form is not required; data may be submitted to Entropy Limited on computer readable media such as magnetic tape or diskettes.

The facility may be closed for one or more consecutive days during the data collection period, but the inventory record submitted for analysis must contain data from a minimum of 30 days of active use of the facility. Meter calibration is not required for use of the system.

The PTIC Rev. 90-12/93 system will not give conclusive results if there is an insufficient number of usable inventory records or there is an unacceptable daily variability in inventory records.

### TESTS AND RESULTS

The performance of PTIC Rev. 90-12/93 system was determined in accordance with the EPA protocol for evaluation of statistical inventory reconciliation methods. The PTIC system was found to be capable of detecting a leak (loss of product from the tank) of 0.10 gallon per hour with a probability of false alarm ( $P_{FA}$ ) of 0.5 percent. The probability of detection ( $P_D$ ) of a 0.10 gallon per hour leak was found to be 99.5 percent.

The EPA test procedure used only addressed the issue of the method's ability to detect leaks, not the ability to quantify other types of product loss, and not for safety hazards.

### LIMITATIONS OF APPROVAL

All procedures for data collection specified by Entropy Limited shall be used. The data records shall cover 30 days or more.

The PTIC Rev. 90-12/93 system is approved for use on single (non-manifolded) tanks of up to 60,000 gallons capacity and manifolded tank systems of up to 60,000 gallons total capacity.

If the SIR test results do not indicate that a tank system is tight, the suspected release investigation and confirmation procedures specified under **ss. Comm 10.63 to 10.64** shall be followed.

If a second test is required to confirm the status of a tank system, that test shall be an approved tightness test in accordance with **s. Comm 10.635 (2) (a)**. The SIR system shall not be used as this second test.

Entropy Limited shall provide an updated list of all Wisconsin users of the system to the department every three months. Copies of any correspondence between system users and Entropy Limited shall be supplied to the department by Entropy Limited upon request. Continued approval shall be contingent on department verification of operational viability of the method.

DISCLAIMER

This approval will be valid through December 31, 2004, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The Wisconsin Material Approval Number must be provided when plans that include this product are submitted for review.

Reviewed by: \_\_\_\_\_

Approval Date: \_\_\_\_\_ By: \_\_\_\_\_

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